

Valve Packing



At left is a sample of Style 287-I valve stem packing manufactured by John Crane Inc., Morton Grove, Illinois and below the packing is shown in a valve application. The material is a non-asbestos, high temperature, high pressure packing that incorporates as one of its components a proprietary "S Glass" yarn. The yarn was originally developed by Marshall Space Flight Center for high temperature space and aeronautical applications.



John Crane Inc. officials first learned of the S-2 Glass while developing a gasket for a catalytic converter for Ford Motor Company. Ford required a material that would handle temperatures greater than 1200 degrees Fahrenheit, the upper limit that standard gasket materials could accommodate. John Crane discovered that S-2 glass, being manufactured by Owens-Corning Fiberglas Corporation, offered tensile strength, good compressive and impact strength, and high performance levels. The company became interested in using the S-2 Glass as a replacement for asbestos packing, but a heavier fiber was needed.

John Crane officials then contacted Owens-Corning, which had developed a number of aerospace and defense applications of S-2 Glass, such as filament-wound oxygen bottles for space use, aircraft radomes and the Space Shuttle rocket motors, and arranged for production of the heavier fiber. Working with John Crane on manufacture of Style 287-I packing is Amatex Corporation, Norristown, Pennsylvania, which purchases the S-2 glass yarn from Owens-Corning, texturizes it and combines it with Inconel®

wire for additional strength. John Crane combines this finished raw material with other components to make up Style 287-I packing. The yarn is one of three components and Style 287-I is the only packing made with the NASA-developed yarn.

The packing can handle temperatures up to 1200 degrees Fahrenheit and pressures up to 2500 pounds per square inch. It can be used in chemical/petrochemical processing operations; fossil fuel and nuclear power generating stations; hot/cold water; organic acids and bases; strong inorganic acids; and petroleum products. Advantages claimed include greater leakage control, increased service life, reduced product loss, reduced maintenance/operation costs, and less torque to effect a seal. ●

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